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THE IMPROBABLE PRIMATE AND MODERN MYTH

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ABSTRACT

Various physical and social characteristics which have been reported in the literature on sightings of the sasquatch are discussed. These reports yield the description of an animal who contravenes many important and in some cases necessary primate attributes. The improbability of this animal is increased when it is understood that social psychologists have long and well understood many of the social mechanisms associated with the sasquatch and other "unexplained phenomena." An analysis of these mechanisms and their processes within the framework of social problem-solving results in an explanation that is more reasonable, acceptable, and scientific.

Recently there has been increased interest by the scientific community in the wild man/animal phenomenon known as the sasquatch or bigfoot (Sprague and Krantz 1977). Sightings of these mysterious animals have been reported for years in various parts of North America and by far the largest number of these, both from the past and in the present, are heavily concentrated in the Pacific Northwest. Here they have a long history. Tales of ape-like creatures roaming the forests are found in the mythology of many of the Indian tribes of the Northwest. The name sasquatch, in fact, derives from the Coastal Salish of the Fraser Valley of British Columbia. A generalized description of the creature, as recently given by primatologist J. R. Napier (1976), depicts them "as standing from 7 to 10 ft. (2 to 3 m) tall and weighing more than 500 lbs. (230 kg). Like an ape, it has thick fur, long arms, powerful shoulders, and a short neck. It supposedly walks like a man and leaves huge footprints about 16 in. (41 cm) long and 6 in. (15 cm) wide." A detailed description of hundreds of reported encounters with the animal can be found in several books on the subject by John Green (1968, 1970, 1973, 1978) who has spent years collecting sasquatch data.

The one thing about the sasquatch on which everyone seems to agree is that the animal is a primate. Indeed, from the hundreds of first person reports that have been collected over the years (Green 1970), the consistently described anthropoid and even humanoid characteristics leave no doubt that this is precisely what the creature must be if it exists at all. In fact, on the surface many of its primate attributes appear larger than life. It is understandable that the curiosity of scientists is aroused over the possibility of the sasquatch. Not only would it be extremely interesting in itself but the existence of a large bipedal anthropoid that gives every indication that it is more advanced than the great apes, would fill a phylogenetic niche near man heretofore empty and would be the biggest scientific news since Darwin's finches.

The problem is that there is considerable scepticism concerning the sasquatch's existence, both on the part of the public and scientific investigators. There have been first person reports of the supposed animal for decades but as of yet, not one body. How, say the sceptics, can such a large animal escape more definite detection when there is so much human presence in the Western wilderness? On the other hand, say his proponents, something is causing all of those footprints, not to mention the hundreds of sightings by apparently honest people. Something is happening. The question is, what?

It would seem a proposition to which few could disagree that the sasquatch is either naturally evolved and exists out there somewhere or it is created by people and does not. Accordingly I have planned this analysis as an attempt to determine which among these two alternatives is more likely. If it is a natural product of evolution and is real, then it should exhibit a number of characteristics shared by other primates. In short, it should look and act like a primate. Certainly it should not violate fundamental physical and behavioral trends that appear to be necessary and/or universal to the order *Primates* as a whole.

One of the most obvious things about primates in general is that they are very social animals. This comes about for a number of reasons but chief among these is the occurrence of many species that have very long physical and social maturation rates--culminating in humans who for both of these, have the longest of any extant animal. Under these circumstances an increased tendency toward sociality is adaptive since it provides stable social protection for long periods of child development. This tendency is particularly marked where the primate species in question is primarily terrestrial rather than arboreal.

One of the most obvious things about the sasquatch is that it is inordinately nonsocial. Of the 736 reported sightings (Green 1973:65), 652 of them are of single adults. Not only does the sasquatch avoid humans with an elusiveness almost unknown among other animals (the giant squid and the ancient coelacanth may be exceptions), it apparently does not congregate with his own kind with any regularity. If it did it would be found with them more often and it is unlikely that even small groups of giant anthropoids could move around undetected, particularly when one realizes that the group would contain slow-moving young and females burdened with infants.

It is true that solitary animals are regularly found among a wide range of primate species. These are almost always males that have become peripheral to the group's social organization in varying ways dependent upon the species. This phenomenon is particularly characteristic of the three great apes where an individual chimpanzee or gorilla may be found wandering many miles from their larger social group for days and even weeks at a time (Izawa 1970:41; Schaller 1963:121). In this, sasquatch behavior is not unusual. But with apes, there is a larger social group somewhere around and they will join it periodically.

The one exception is the orangutan. It is the most solitary of all the apes and except during periods of mating and sometimes in cross-region travel, they spend their time alone drifting through the 30 to 60 ft. high canopy of the dense tropical forest (MacKinnon 1974:16). And in this ecological adjustment of the orangutan lies a vital clue to the intense sociality of

almost all other primates; the Orangutan is in a protected environment. It spends 99% of its time off the ground in a world where it is master and where predation is very low. The male of this species alone can afford to be solitary and leave the female and her infant to fend for themselves. And it is here too, in the tops of dense southeast Asian tropical rain forests, that the gibbon and siamang occur; the only two instances of monogamous alliance among advanced primates (Chivers 1972:129). Where there are special ecological niches that provide unique protection, male dominance can be low, the tendency toward polygyny less, and the social bonding that is characteristic of most other primate species not so intense. All other primates that are ground dwelling, those like the chimpanzee and gorilla who live in montane forests and scrublands and the baboon, the gelada, and the drill, who live in the open savanna, are intensely social and can easily be found in groups wherever they range.

Even in specialized environments where a solitary primate can exist, he is usually not difficult to either find or follow. In the middle of the worst habitat, in dense tropical forests, a person can easily keep up with an orangutan by following it on foot. This is particularly true of females who are usually accompanied by a young infant and are therefore even more restricted in their movement. In fact, all three of the great apes, regardless of how wild or unaccustomed to strangers they are, can usually be followed on foot for days at a time. (It does take considerable time to be accepted as a live-in member so that they can be closely studied.) Prolonged speedy escapes such as that of a feline or antelope are not characteristic of primates. They are much more dependent upon a special ecological niche, or on their strength or aggressiveness, or especially, on organized social responses, for protection.

Considering these several points, let us now look at the sasquatch. It is more solitary than any known ground dwelling primate, including humans, many times over. Yet it lives in anything but a protected environment. It is terrestrial and that necessarily brings with it a host of hazards. Its biosphere is occupied by such predators as the cougar and the bear. It has lived at least 15,000 years with large aboriginal human hunting populations and for the last several decades has faced thousands of men armed with high powered rifles who are so little selective that they regularly shoot horses, cows, and even other people. Any other primate under such conditions would live in a social group; and that includes man.

In addition, for a large part of the year a high percentage of females in any primate population, again including man, are accompanied by infants. But the solitary habits of the male sasquatch take him away from his social organization within which exists infants who, like all anthropoids, require one of the longest maturation periods of any animal. Where are these slow-moving unprotected females with their infants and adolescents who take years to develop social independence?

The question of the sasquatch's elusiveness is an interesting one. Here we are not dealing with a simple physical characteristic or with a highly stereotyped reaction, but with the end product of an organized system of complex responses. Endemic to this response is a degree of purposefulness that, as of now, can only be ascribed to humans. And even that motivation does not occur so completely in any known group. Why is he so evasive?

Although the sasquatch is a terrestrial animal in an environment which is potentially hostile to the breeding group in the long run, in the short run it has no more to fear in its surroundings than a bear or a man. Their strength is enormous; they are reported to have pushed over houses, moved boulders of several tons, and overturned a trailerload of culverts (Green 1970:64). Yet they often run from one unarmed human. This animal has no need to run that far, that fast, that often. In fact, in doing so, they create another first in the order of primates; they do not encounter strange situations in typical primate fashion.

The report of a recent experience by the Villas Boas brothers who made the first European contact with the Kreen-Akrore, a group of Indians who live on a tributary of the Amazon, serves as an illustration (Cowell 1974). When a primitive village of the Indians was first located by the anthropologists and their party, all 30 or so inhabitants were away hunting. Pots and pans and other gifts were left in the center of the village clearing and the exploration party withdrew to the edge of the jungle to await the Indians return. When the Indians did return, they regarded the gifts with bewilderment and trepidation and began looking toward the village periphery. When the anthropologists were discovered, the males banded closely together and ran to the other edge of the clearing and with spears held high showed alert and hostile display behavior. As the anthropologists attempted to come closer, the band ran several dozen yards farther and again took up a defensive posture. Now that is primate behavior. Of course agonistic responses are to be found in myriad variation among primates but one cannot help but notice the strong family resemblance between this and any group of ground-dwelling primates.

Another feature of the sasquatch's reported social organization that is something of a puzzle is its family structure. In most of the sightings in which a female with young has been observed, the description is curiously reminiscent of a suburban middle-class family of husband and wife with one or two kids (Green 1973:12, 37, 42, 44, 47, 65). Only the station wagon is missing. Alliance and descent systems among primates, including man, are a highly complex matter and although intelligible patterns that make considerable evolutionary sense do exist, that analysis is beyond the scope of this paper. Suffice it to say that among most primates, mothers are specific mothers and fathers are general fathers. Exceptions among larger primates are found among the Hylobatidae as has been mentioned. In no group of large ground-dwelling primates outside of a few groups of highly civilized humans who utilize a nuclear family structure, do isolated males living with long-term bonded females normally take specific responsibility for offspring. And of course that is the very family structure that is associated with those who report this animal. One must be suspicious of the anthropomorphic quality of these reports. It would be highly unlikely that a large terrestrial primate of the sasquatch's general phylogenetic position would ever be found outside of a social group with a female and her young.

Much more often, however, the sasquatch is not seen with this most improbable family group but, as we have noted, they are alone. Of the 426 cumulative reports given by Green (1973:64) 149 or somewhat more than a third of these, were night sightings. This behavior is even more unbelievable. The reason is simply that primates are not nocturnal animals (Schultz 1969: 44). Except for the tarsier, a small primitive rodent-like primate with oversized eyes, and the *Aotus*, a small Central and South American monkey (Napier

and Napier 1967:53), all members of the other 60 some remaining extant genera bed down and stay put at dusk; and they remain that way until it is again light or, often, until the sun is well up in the sky. On very rare occasions on nights of the full moon, chimpanzees have been known to show some movement in small groups, but again, this is rare (Goodall 1968:201). Such an inordinately large number of night reports would lead one to believe that the sasquatch is very comfortable indeed wandering around any and everywhere all through the night. With other primates, even one night sighting would be not only remarkable but descriptive of a behavioral pattern that does not normally occur all the way from the beginning of the order to man. Even here virtually all preliterate human groups avoid the night with a vengence; they speak of animistic beings that populate the night and other more tangible dangers. But for whatever reasons, preliterate peoples rarely ever venture outside of their dwelling or compound during the night except under conditions of duress.

How does it happen then that this creature, the sasquatch, contravenes a behavioral organization that is fundamental to an entire biological order, except for civilized man? What are the reasons that could possibly be given for this strange development? It should be noted that the sasquatch is also uniquely equipped physically for his nocturnal habits. Again and again reports (Green 1973:21, 22, 24, 52, 53, 58) describe an animal with bright red or green luminescent "night shine." The effect can be seen at night by a short drive down any country road and is a visual adaptation on the part of many nocturnal animals that increases light receptibility. Physically this luminescence is caused by the development of a reflecting layer, called the tapetum, that lies between the choroid coat and the retina and serves to send light back through the retina for greater illumination (Herzberger 1966: 166). Such adaptations occur somewhat differently in a variety of animals, e.g., fishes, ungulates, and some carnivores, showing that the ability has several times evolved independently (Walls 1974:240-241).

In the order of primates, the tapetum is not a developed structure in any species past the primitive prosimians (Walls 1974:230). In fact, it will not develop in any animal unless its night activities are crucial to its existence because the animal then gives up a considerable amount of visual acuity. That is, eyes that adapt to nocturnal conditions are by necessity less useful during the day. Information such as this tells us a number of things about the sasquatch: (1) it has found it necessary to make both physical and behavioral adaptations not associated with any other larger primate; (2) according to reports (Green 1973:64) it is not exclusively or even primarily a nocturnal animal and could not therefore be expected to have developed a complicated physical structure for night vision, particularly in view of the fact that anthropoids are one of the most unspecialized animals in existence; and (3) if it did so it would be considerably disadvantaged in coping with its daytime environment. Primates, like other biological organisms must adapt themselves under conditions of limited possibility. The sasquatch, in displaying such irregular physical and social behavior, would appear to push that line hard.

Another odd thing about the sasquatch is that, other than footprints, little or no evidence of its presence is ever found. When a bear strips a salmonberry bush or digs for roots, it is easily noticed by those who know

what they are looking for. Where, for instance, does a sasquatch stay at night when it is not moving around the country? All of the anthropoid apes, and all humans, construct dwellings where they spend the night. With the apes, this takes the form of a rather simplified yet sturdy nest which is made by breaking and/or bending limbs, twigs, and leaves so that a small interwoven structure is made in which they sleep. Depending on the species and the individual, this nest may be on or close to the ground or, more often, at varying heights in a fairly sustantial tree (Goodall 1968:194; Schaller 1964:195; MacKinnon 1974:11). Some of these are rather impermanent but many are more complex and can be easily recognized as much as a year after they are constructed. In fact, in areas occupied by any of the apes, or preliterate man, the nesting sites and human dwellings form a conspicuous part of the environment. A large anthropoid ape who did not engage in some form of this behavior would be a strange primate indeed. Yet, where is the evidence that would have to be left behind? To suggest that this animal cleverly unconstructs these sleeping arrangements so as to confuse its tormentors is, again, to suggest that it has more cunning that any existing primate population. In fact, the motivation to do so does not exist in the entire order *Primates*.

Variation on a theme is one thing but the sasquatch seem intent on playing an entirely different melody. The sasquatch's relation to water is another case in point. All primates except one small crab-eating macaque avoid water whenever possible. None of the apes swim and most will travel for miles in order to avoid wading even a shallow streamlet (Schaller 1963:29). But the sasquatch is many times reported swimming in lakes and salt water bays, or going into or coming out of rivers and bogs (Green 1970:61). From these reports there is a strong impression that this creature has not only overcome the characteristic water avoidance of other primates, but has gone so far as to have become somewhat behaviorally dependent upon water. It is not that this is impossible, but that one is led to expect more behavioral consistency in this otherwise most regular biological order. Because of the phylogenetic position that this large advanced anthropoid must occupy, such behavior is very unlikely.

The sasquatch is also an unusual animal in respect to its physical makeup. Virtually all of the reports, either by explicit statement or by implication, describe it as an animal that is far too hairy to be a large advanced primate. That is true too of all the reputed photos of the sasquatch (Patterson photo [Green 1966:54]). The anthropoid apes indeed appear more hairy than man, but a significant part of this difference is due to the length of the hair not to the density of the hair follicles; both men and apes reflect the tendency for hair to become less dense at higher levels of primate development (Rosen 1974:6). Not only is there too much hair on the sasquatch (giving it a King Kong-like appearance), more importantly, its organization on the body does not resemble that of any known large primate. With all of the apes, many individuals will be partly or almost entirely devoid of hair in such places as the forehead, nose, mouth, chest, stomach, and on the insides of the arms and legs. This tendency probably results from the increased importance of individualized characteristics in primate social behavior, e.g. to facilitate the reading of facial expressions and general disposition. Whatever the ultimate reason for patterned loss of hair among large primates, it is a family-wide adaptive response. The apes have lost significant amounts of hair in places identical to where humans have reduced their hair; one

has little difficulty in finding chimpanzees and organutans that are bald (Schultz 1969:120; Nissen 1956:407) or gorillas with very little or no visible chest and abdominal hair. The balding, specifically, is due to androgenic hormones that are present in all primate males and they have a similar effect on hair growth and loss in all males of the Ponidae and Hominidae (Montagna 1965:62; 1963:181). Yet in the majority of reports and in the several photos that are supposed to be of a sasquatch, these are not the patterns that we find.

Even more incredible are the majority of reports of sasquatch females which time after time describe these animals as having large, hairy, pendulous breasts (Green 1970:77; 1973:50). Mammillary glands of all primate females except humans are not noticably well developed and that holds true whether the female is lactating or not. In fact, the visable size of the breast bears little relation to the availability of milk or the size of the infant to be fed. Gorilla mothers do quite well by their large infants with virtually no breast protrusion and only lengthening and swelling of the nipple.

The form of the large pendulous human breast has almost certainly developed from sexual selection rather than from any primary need associated with the suckling of infants (Darwin 1874). That is, from the point of view of selection processes, the human breast is more sex dependent than infant dependent. The female over time has acquired not only large visible breasts but a host of other secondary sexual characteristics which serve as stimulus releasers in male sexual response. These include specific and unique sexually dimorphic qualities of the ankle, leg, thigh, buttocks, hips, and neck, as well as body size and facial features. All of these physical forms are uncovered by hair (and would be vastly less effective if they were covered) and under the correct conditions produce strong reactions in males; a fact that hardly needs scholarly documentation.

In human behavior the male response to these sexual releasers takes place in both a physical and social context that emphasizes individualized attributes. In other words, there has occurred in human behavior a preponderant tendency, which appears to have strong phylogenetic dependence, for sexual behavior to depend less on stereotypical responses to physiological conditions and more on the specific and unique qualities of body and personality. What we are concerned with here is not a behavioral pattern associated only with humans because anthropoids in general show a low-order development of these same tendencies. Chimpanzees, for example, do have sexual preferences for specific individuals and brief consort bonding does occur that is based on these preferences. Moreover, sexual activity can occur any day of the ovarian cycle and is therefore not absolutely limited to biological impetus (Hafez 1971:176). For all of that, sexual behavior even among the apes is heavily dependent upon an endemic estrus cycle which hormonally regulates breeding (Jay 1963:11). The difference is one of degree, but it is one of great degree. An ape more nearly mates with a class of individual (e.g., male or female) in proper hormonal condition. Human behavior, on the other hand, is more nearly a response to individualized characteristics, some of which are to be found in the cluster of highly visible secondary sexual releasers of the female. What this indicates is that these secondary sexual characteristics and the rather complete loss of body hair are positively correlated. In fact, one does not, and presumably cannot, occur without the other.

Let us look again at the female sasquatch. It is reported to be both very hairy and to possess large pendulous breasts. One is about as likely to find that combination in the order of primates as a fish on a bicycle. Not only that, but it is reported to have only one of these individualized sexual characteristics. The sexually dimorphic differences between the male and female, as reported, are mainly in size; the face and body are the face and body of an animal. Neither can be easily and exclusively used to differentiate the sexes or to form the basis of individualized sexual responses. Among primates, large pendulous breasts are indicative of a level of sexual sophistication that can only occur in very intelligent, symbol-using animals. Man is one such animal; the sasquatch is not.

I do not wish to seem overly hostile to the sasquatch. On a personal level I think we would have considerable rapport. After all, other than its strange unsociableness, it possesses a great many attributes that are so very human; even human in specialized ways that are normally associated with advanced middle-class social systems. All descriptions of the sasquatch which refer to its solitary, unsociable, inexact nature are utterly necessary for a creature that has no verified empirical existence. These aspects must be a part of any and every animal who has never been found or received orthodox acknowledgement. Otherwise, many of its physical and behavioral characteristics are readily recognizable.

The male sasquatch:

(1) appears to be monogamous with a long-termed consort relationship.

(2) apparently utilizes a nuclear family structure and is sometimes found to take direct responsibility for one or two offspring.

(3) has qualities of character that could easily be endorsed by any of the world's great religions. If he is not beneficent, he is is at least benign. He does not go around robbing, raping, or killing.

(4) may well practice birth control since a female has never been observed with an infant nor are his numbers ruinous to his ecology.

(5) cavorts around at night.

(6) is ecologically-minded in a more purposeful sense; he does not clutter up the forest even to the point of hiding his abodes.

(7) swims and goes fishing now and again.

(8) is clever the way an outlaw is clever. He not only escapes definite detection, but his disappearing act borders on the magical.

(9) is hairy like every movie version of a large, ferocious, overly intelligent, but inherently benevolent, ape.

(10) has been shot so many times without having ever once died that one wonders if there is not something otherworldly about him.

(11) has a wife who could pose for Playboy magazine.

I say this not at all in jest. The point is, far too much of this description is anthropomorphic, which would be the case if its existence is entirely dependent for substance on those who report it. In truth, I do not know with absolute certainty that the sasquatch does not exist. What I do know is that natural things being what they are, it is a very, very improbable primate. So improbable, in fact, that it behooves us to see if an alternative explanation does not seem more likely.

If this animal does not exist, what needs an explanation is why dozens of ordinary, honest, and reasonable people report seeing it. A part of this answer is that some of these people are not as ordinary, honest, and reasonable as they first appear. Outright fakery has long been associated with the sasquatch and Green (1973:47) states that there has tended to be an upsurge in this sort of thing as more people hear about the reports. But surely not all of these people, who at cursory glance would seem to constitute a wide age, sex, and socio-economic spectrum are tricksters; many of their stories have the ring of conviction.

Social psychologists have long known of psychological mechanisms associated with collective behavior that produce perceptual alterations as startling as those reported by the sasquatch watchers. One such mechanism, known as the autokinetic effect, is of particular interest to us here because its principles appear to constitute one of the fundamental dynamics of social problem-solving (Turner and Killiam 1972:35). Since the sasquatch phenomenon is inextricably involved in group processes that relate to the formation of social communication and the social validation of the content of this communication within the general framework of social problem-solving, a look at the autokinetic mechanism is in order. The effect itself is well known and is often performed as a demonstration-experiment in classrooms, partly because it is simple in design but also because the results are consistently spectacular.

The experimenter places a small box on a table in clear view of everyone in the audience. In the box is a small lamp (flashlight bulb) and this light source is entirely contained within the enclosed box except for one tiny opening that faces the audience. The room is then made completely dark so that the only thing seen by the viewers is the merest pinprick of light coming from the front of the room. If the experimenter wishes, he can give those participating a general description of the box and its contents without having an untoward effect on the outcome of the demonstration. One aspect concerning the box, which will be described shortly, is usually withheld since the experimenter does not want to create situations of impossibility in the audience's mind. The experimenter than asks the group to respond at will if they notice movement in the light. There is usually a brief silence and then someone states that he does see some movement. When asked if its direction is circular, the reply will be yes, and when queried about the direction of rotation, he will give left or right.

"Does anyone else see this movement?" probes the experimenter, and always there is a chorus of yesses.

"Is it going to the right?" Again many yes answers.

"How big is the circle?" he continues, and someone usually replies that it is about 3 or 4 in. in diameter.

"Does everyone see the light moving to the right in 6 in. circles?" The answer, commonly, is a loud yes.

"Is there anyone who doesn't see it?" There will almost never be negative response.

"Do you see it increase in size? Yes? How big? Respond at will if you see it grow." "8 in." comes the reply from one or more and then "10 in." from another and before long the circle, continuing to travel round and round, grows considerably larger.

An amazing thing about all of this is that at any given time there is an unusual consensus about the size and direction of rotation of the light which will include most or all of the people in the room. On one memorable occasion I was demonstrating this effect to about 200 students when responses began coming from a large number of people indicating that they were experiencing wild gyrations of about 2 ft. Having never received reports of such extreme motion, I placed my hand against the wall and eased out into the darkened room. When I looked at the light, I too saw 2 ft. circles. The surprising thing about this is that I knew something about that little box that the rest of the group did not. The light in the box is stationary; it does not and cannot move. But that knowledge seemed to make no difference in my perception. From my position in the audience, rather than continuing to let perceptual norms arise spontaneously, I began to "talk the light down" and virtually everyone of the 200 people in that classroom witnessed the light slow to a small circle, reverse direction, and grow again to a large size.

The mechanism involved in the autokinetic experiment is the following: a viewer in a completely dark room seeing one pinpoint of light experiences a visual stimulus but without its normal attendant visual context. Up, down, back, forward, far and near, exist in relation to other stimuli and when this frame of reference is missing, the light is free to roam in one's perceptual field. It is for this reason that considerable random motion will be experienced by anyone viewing the light. Its pattern results primarily from other causes. When an individual is placed in a situation where he lacks stable perceptual anchorages, he begins to feel uneasy. This increase in anxiety is a consequence of his need to visually define the situation where adequate visual stimuli are not available. The researchers who performed these experiments in their original form report statistically significant levels of increased tension under similar conditions (Sherif and Harvey 1950:280). Daily, the experience of some form of this kind of tension is common to us all. When there is a loud bang outside our window we feel an urge to rush over for a look. When we hear that John or Jan has committed this or that indiscretion at work, we feel a similar urge to know more about that too. The experiment is able to show this tension to somewhat greater isolation. The participant, experiencing a felt need to define and make sense out of the situation, undergoes a subtle but definite change in his ability to cope. He begins to depend less and less on his own judgement and more and more on the judgement of others; he experiences increased suggestibility, or, as Sherif and Harvey (1950:280-281) have expressed it:

> The consequences of the ego-tensions, anxiety or insecurity are a state of restlessness, floundering all over to find some stable anchorages, heightened fluctuations of behavior. If these states of anxiety or insecurity are widespread among the individuals of a group, the result is an increased degree of suggestibility, the increased credulity for events that are bizarre and unexpected, a greater degree of susceptibility to the spread of wild rumors, the greater liklihood of panics.

Under these conditions the audience becomes less critical in their judgement and when a norm emerges, spontaneous or otherwise, there is a strong tendency for it to be shared by the entire group. This explains why the experimenter invariably finds an almost unbelievable consensus in participant responses. If several people speak out and say they see a 2 ft. circle, then another 150 will, because of the emergent norm, see it similarly; even college instructors who know better.

How can dozens of people see a sasquatch galloping through the hillsides? Well, how can 200 people perceive 2 ft. circles from a light that does not move? But is there not an important difference between these two examples? In the one we have a controlled, highly artificial situation in which a minute light is seen to move. In the other we have real, whole, concrete behavior where an entire animal is well enough observed that it can be described in detail. Many social psychologists who specialize in the field of collective behavior believe, however, that mechanisms similar to the one described above play an important role in the kind of social perception and communication that is associated with sasquatchery. In other words, the social dynamics involved here have much greater implication in that they are thought to be instrumental in broader social processes.

The immediate problem is often encountered in social science: how does one take the controlled mechanism isolated in the laboratory and show its applicability to whole behavior? I will describe a couple of actual experiences that I hope will serve to concretize this otherwise abstract and artificial process.

In the northwestern part of the state of New Mexico, in a remote area of sparse habitation, there occurs a land form known locally as the *malpaís*. The *malpaís* is a lava flow formed from an ancient magma that spewed and frothed black molten rock into some of the most irregular surface forms ever created. Covering an area approximately 10 by 40 mi. almost nothing can grow on it except an occasional weed and rattlesnake. Its huge blow-holes, sharp glassy spines, and jagged rock make traveling on it all but impossible. In most places a full day's hike might equal a quarter of a mile, leaving one well within sight of one's starting point. This inhospitable place, however, has always had its devotees. For hundreds of years Indians have retreated to its safety and today an occasional whole pot or *olla* of considerable antiquity can be found in one of its numberless crevices. Because of its remoteness, its inaccessibility, and even for its rugged beauty, the area holds considerable fascination for a variety of people.

When I was a teenager I would spend a number of days each year poking around the borders of the *Malpaís*. In fact, this activity became a mild mania among the more outdoorsy young males of the area and one never had trouble finding companions. Sitting around the campfire at night after a day on the lava there would be the inevitable stories about this strange place. The principal one, which I ran into on several occasions involving different individuals goes something like this: on certain nights (never more specific) in the spring of each year, one can stand on the promontories of the lava bed's border and witness an odd occurrence. Far into the distance there will be observed a procession of lights, very much like torchlights, winding across the lava. The procession itself seems to come from nowhere, is slow-moving like 20 or 30 individuals carefully picking their way, and after half an hour or so, disappears back into nowhere. How could anyone ever get out to the middle of this torturous mess much less maintain continuous travel on it? Well, the story is always accompanied by another beguiling circumstance; these people, whoever they are, reach the center of the *malpaís* by way of long connecting tunnels that allow someone to walk largely unobstructed. In these, placed at strategic intervals, are pots full of grain and water. No one I had ever talked to had themselves observed the lights or the tunnels. The story was always one or two people removed. But because it was so consistently constructed--it would be told by all sorts of unrelated people at different times--it had considerable impact. And for other reasons, there was just enough plausibility connected to the story to cause one to seriously wonder. This is the land of the *Penitente* and even in rural areas today it is possible to see long lines of sheet-covered individuals carrying a man on a cross, making their way silently through the night. The Zuni Indians, too, live not far away and February and May are important months in the *Shalako* or Kachina ceremonies. Who knew what they were up to?

But come now. Miles of connecting tunnels that no one could ever seem to find and weird proceedings at night in the middle of the most uninhabitable place on earth? Many of us had kicked around the *malpaís* long enough to realize that it was all vastly improbable. However insightful as that may seem, it did not stop me one night from spending several cold hours on top of a high rock gazing intensely out through the moonlight into that grotesque emptiness. I did not see the lights but I remember liking the idea immensely.

The real surprise came when I learned from oldtimers in the area that these same stories, with little variation, had been around for years, going back at least to the 1920s. Recently, while passing through that same part of the state, I learned with much less surprise that they are still in existence, being passed on from one individual and group to another over long spans of time.

There is here, I think, an important connection to the sasquatch syndrome. What we found with the autokinetic phenomenon is that people have a need to define the situation, even, in critical situations, an overwhelming need to know. This is, after all, a general requirement of a rational problem-solving animal; his security rests upon that ability more than any other over which he has control. When the individual is unable immediately

to carry out such a definition or when norms that govern behavior are missing or have lost their applicability, a number of predictable things begin to happen. In the darkened room the quest for information did not cease because of lacking perceptual cues. A form of communication arose spontaneously that served to make these needed definitions and to link the audience in a collective process of adjustment. In place of the old, now artificially inapplicable, new behavioral norms emerged that had a formidable effect on the group. What we saw was not happening but what did not happen happened to all of us alike. That is possible only because we were all connected in spontaneously arisen processes of communication.

With the strange events on the *malpaís* the participants are also linked, albeit not in a compact crowd such as an audience but loosely as a diffused collectivity that still exhibits many of the behavioral principles of people acting together (Turner and Killian 1972:32). Communication goes on. With the *malpaís* it is in the form of rumor and is roughly equivalent instrumentally to the spontaneous outpourings of our audience. These rumors relating to the *malpaís* have circulated for years linking one individual and group together and all participate in what normally would be a growing definition of the situation. Information about the sasquatch is often identical in nature.

For a clearer understanding we need to view this need to communicate in a larger framework, to see these acts as inseparable parts of a larger social process. We need to see that human understanding, like human behavior, is less a logical proposition than it is a process--a series of movements and changes from one state to another in order to purposefully accomplish ends-in-view. At the beginning of these social processes are conditions, not of logical equivalence, but of simple vagueness. When we attempt to know we move from a condition of vagueness to a condition of concreteness. All social inquiry takes this form.

Normally, there is a progression toward social definition involving several well-defined stages. Vagueness at the beginning of social inquiry constitutes a primitive, usually highly inaccurate, body of information that is created and sustained by rumor. As the process continues social definition becomes more highly structured and the first gross inaccuracies, the sometimes idealistic and frequently fantastic perceptions of the first stage become--for want of a better term--socialized, resulting in a more realistic appraisal. What appears to be happening here is the reduction of a large field of perceptual alternatives with growing social experience. If collective interest is sustained, somewhere along the line rumor gives way to public opinion and even, with the culmination of the process, to scientific inquiry. It is in these later stages that information, because it has passed through a long and complex system of social validation, becomes concrete; it is information an individual or group can reliably act upon.

In the case of the *malpaís*, and for that matter with all other so-called "unexplained phenomena"--the Loch Ness monsters, lost gold mines, UFO's--including, be it observed, the sasquatch, this normal process of social validation forever remains at the beginning stage of vagueness. Why? For one thing, there is no empirical object to be verified and not enough legitimate informational input to sustain customary social inquiry. Secondly, it should

be noted that all of these fantastic objects and events occur or originate in places too remote to be open to close scrutiny. They are found in outer-space, at the bottom of terribly deep lakes, in the middle of impenetrable deserts or, in the case of the sasquatch, amongst the depth of the forest primeval. They are so located, almost certainly precisely for that reason; one cannot as easily sustain a myth in the middle of a shopping center parking lot.

Even more to the point, however, is the realization that the occurrence of such stories in places so remote is virtually predictable from what we have seen in the dynamics of group problem-solving. The reduced and controlled behavioral tendencies can be clearly observed in the autokinetic experience. The need to create norms of expectation, of belief, of conduct, is strongly felt and provides the motivation to fill in, to structure, those areas of social perception that remain undefined. And it is here too, at the beginning of inquiry in this condition of tension, that the group's need to define, as with the laboratory audience, is most urgent; its attention most selective; and its suggestibility greatest. It has been said that nature abhors a vacuum and in the case of group reaction to a perceptual void, that is particularly true. A generalized conception exists concerning virtually everything in human perception. It is only in those largely inaccessable areas that these conceptions can remain so very primitive. The time is not far removed in our history when one could seriously entertain the notion that the moon was made out of cheese or that incredible happenings occurred on the side that we never see. In fact, I would venture an educated guess that there is not a single place of isolation on earth that, in the perception of those most concerned, does not contain something fantastic. These are the great psychological graffiti of open spaces that are unconstrained by conventional norms. That is exactly the beginning stages of social inquiry and if nothing is there then it is to be created. And once created it survives because it is in a psychological milieu that well supports it.

We have now laid the groundwork to explain why there are sasquatch reports. What is left is to establish a specific instances of these general tendencies. An experience that happened to me several years ago comes immediately to mind and is so perfectly illustrative of the point that it is worth relating here. I was on a camping trip with some friends and early one morning before anyone else had awakened I jumped out of my sleeping bag and jogged up a nearby draw for an early morning look around. About 100 yd. from camp I found a small cave-like enclosure formed by some overlapping rocks. Up I climbed and peered in. To my astonishment I found myself looking at a large mountain lion only a few feet away. Thinking that I had cornered a big wild cat in a shallow cave I withdrew immediately. Actually, withdrew is too weak a word since I launched myself backward with considerable vigor. An ethologist finding me at that point might have explained how unlikely it would be to ever corner a large cat in a small cave after I had noisely climbed up to it but my perception was so selective at the time that such ideas never occurred to me. Arriving back at a dead run I remember breathlessly telling everyone what I had seen. Someone soon fetched a flashlight and back up we all went. Four of us crept up to the opening and cautiously looked in. Even at that point it was obvious to me that I had not sighted a mountain lion even though two eyes could be seen glaring out of the dark enclosure. When the light was switched on we found the two small clumps of greyish-green lichen on the rock that I had mistaken for eyes and the lines and shape of the back wall did indeed simulate the body and legs of an animal.

Needless to say, all of this caused me some embarrassment. Not so much because of my hasty retreat. I have run from things much less ferocious than a mountain lion. My acute chagrin was caused by the fact that when I dashed back to camp I had given a rather more complete description of the animal than was warranted. To tell the truth, in an act of psychological closure, I had not only given a good physical account but had even described the animal's movements. My companions did not unmercifully tease me as they might have but there was little need to. I knew what I had done and so did they. This episode still today brings a tinge to my cheeks when I think of it. If we had not returned for a closer look, I have little doubt that I would still be telling stories about the time I was almost gobbled up by a mountain lion.

One of the differences between my experience and the others mentioned is that, at my pointed insistence, we did not participate in a rumoring process. And it was to my great relief that we did not. That story would have circulated among my friends back in town like wildfire. We have already examined a number of causes for this reaction. A rational problem-solver needs information to cope with his environment and he demonstrates this need by recurring bouts of interest. Individual and group processes are often not very different; almost always, even where emergent differences do exist, each shares considerable interdependence. Like the self and the society that nurtures it, each has a way of influencing and complimenting the other. The sasquatch reports, like all other social information, is played to an audience emotionally primed to be a willing partner. An individual out alone, under the influence of increasing anxiety, sees something, conjures up a complete picture and communicates it. And the society into which this communication goes is ready for it.

According to the analysis here, there are two kinds of people who report the sasquatch. One is a liar; the other has been influenced by the processes we have described. Although I believe this explanation speaks adequately to the problem, one other aspect needs comment: why the sasquatch's appeal? How deeply placed are the needs that he satisfies? The relationship between the primal dyad of the individual and society is, in the area of communications and social problem-solving, usually relatively clear-cut. The emotional need to engage in rumor and the emotional receptivity of rumor by the group, is most often in response to a crises situation. In an atmosphere of great emotional contagion, rumors gush forth from those involved in natural disasters, fires, gross criminal acts, and in situations where there is a breakdown in the social order. In these cases the processes we have described arise spontaneously in response to a specific critical situation, sometimes even involving crowd behavior, and when the problem recedes so does the interest.

That is not entirely true of the sasquatch and other related phenomena. Their communication networks do not arise in the face of crisis nor does a crowd precipitate in the wake of their complexities. The individuals involved, except for a few professionals, are connected, like housewives who watch soap operas, only by the thin thread of a communication chain. But connected they both are, nonetheless. In these cases the inception and spread of emotional and social contagion is a hit or miss affair; spontaneously bubbling up at one time, arousing some amount of interest, and then,

subsiding again, they repeat the process at some later time for reasons that are difficult to rationally grasp. In this, sasquatchery is akin to fad and craze behavior. Like the hula hoop, astrology, landbooms, yoga, and particularly UFO's, one instance sometimes triggers considerable interest (Turner and Killian 1972:130). It is at this point that a rash of reports are likely to come in.

One thing this tells us is that, again like that other diffuse collectivity, the soap opera housewives, the sasquatch watchers are particularly receptive to the content of the information that is being generated. These people apparently want there to be a sasquatch and his reports include nothing that disturbs their sense of social, intellectual, or ethical propriety. In lieu of proper sampling I do not know precisely the public's attitude toward the sasquatch but I suspect there are a great many people who are firm believers. I also suspect that among these are many whose opinions are not likely to be disturbed by factual investigation because the sasquatch is satisfying to them in a way that reason is not. This fact was brought to my attention a number of years ago in a way that has indelibly etched its message on my consciousness. One does indeed become suspicious of need satisfactions that fly so fully in the face of good sense.

In 1959 I accompanied a group of geologists on a mineral collecting foray into a limestone cave at Fort Stanton, New Mexico. This cave, located in the southcentral part of the state, is part of the larger Carlsbad system some 75 mi. away. It had attracted interest because a group of spelunkers had then recently opened a section which contained a rare twin gypsum crystal thought to occur in only one other part of the world. The geologists wished to collect a number of these selenite crystals for the mineral museum at the University of New Mexico before they were destroyed. We went to Fort Stanton and did precisely that. While there for several days we had an opportunity to talk to many of the local citizens. Not unpredictably we were regaled with wonderous stories about the nearby cave in which we had spent the last several days. The principal story, which seemed to be owned by the entire village since we heard it everywhere we went, concerned considerable derring-do on the part of the cavalry and the Indians in the middle of the last century. We were told that the cavalry would periodically chase mounted war parties of Mescalero Apache hither and yon through this region and the Indians would head directly for the cave at Fort Stanton and riding in full-bore, would escape destruction. In fact, they would escape altogether since, regardless of how long the cavalry waited at the entrance of the cave, the Indians never came out. The Indians it seemed, knew of a secret passage in the cave that allowed them to reemerge miles away. This, we were told, caused great consternation among the cavalry since they would have to chase these same men on the same horses all over again--back to the cave, presumably.

It all seem improbable, but, our curiosity piqued, about a dozen of us returned a few weeks later and mapped and photographed every section of the cave. Our conclusion was unanimous and unequivocal: in no possible way could mounted men exit the cave an any place other than the original opening. One would think that the word of professional geolgists with special interest in limestone caves would be credible to almost anyone but when we advised members of the local community of our findings, converts were few. What we most often heard was some form of, "of course you didn't find it, you see, it is a *secret* passage." They had expressed the apparent truth.

I conclude from this that people love nothing so much as a mystery. And why not? For untold centuries man has represented those social relations most important to him, both the sacred and the profane, as myth, legend, and fable. These are most often contained in his oral history which provided the earliest means of social continuity and each, almost invariably, exhibit one degree or another of the fantastic. Arguably, these too, as with the beginning stages of social problem-solving, are early forms of communication and are therefore a primitive instance of knowledge which, like most of what is important in human behavior, are accompanied by their own unique emotional rewards. One does not have to look far to see how emotionally rewarding some of these prior behavioral organizations can be. If one compares the spontaneity, the gut response, and the participatory cohesion of a Holiness religious service to the separateness and orderliness of what might be called the ice rink of contemporary Methodism or Episcopalianism, for example, one understands readily enough. Modern social organization has rationalized, many would insist overrationalized, virtually every aspect of the individual's existence. A view of the sasquatch as found in this paper belongs to that increased rational tradition. The sasquatch of rumor and fable belongs to an earlier one. On many levels the one, the rational, we are led to accept; the other, the emotional, we are encouraged to suppress and deny.

Such atavistic behavioral responses are apparently embarrassing to almost everyone, social scientists included. Organized religion has for centuries supressed the emotional appeal of earlier religious expression; even brutally at times. And yet, today, in our own society, superstition can be abundantly found. We no longer constantly war on a village to village level yet every weekend throughout the year millions of perfectly modern men and women are viscerally enthralled by ritualized enactments of these same forces in sporting events. Myth? Why should we assume that the emotional need for this has suddenly disappeared?

Let us for a moment compare these two, the rational and the emotional. In the social relation between them, I believe, lies the ultimate appeal of the sasquatch. The individual lives in a world, from the standpoint of social structure, that is highly rationalized. His working concept of self must stand in relation to this abstract social construction. What he sees of himself must, in the last analysis, be presented as some form of invidious comparison. This individual knows well enough who he is and what social values accrue to him from his life-long association with his society. It is obvious that there are others, a world full of them, who have more money, own more material goods, work at more interesting jobs, display greater power over others, and command greater respect from their fellows. There are, of course, ways in which these discrepancies can be justified; every rationalized social system has worked out an equally rationalized process of distributive justice which allows the individual to accept his lot.

But how well does that always work? Someplace in most private selves, I suspect, is the nonacceptance of these social values. True, the world is full of all sorts of things that others seem to understand that the individual himself does not. There is chemistry and law and space engineering and the stock market. And all of those computers make it difficult to have an intuitive grasp of almost anything.

This world has been settled definitely enough but all that is common and competitive is really on the surface. What he yearns for, this individual, is another world in which truth and real value exists. If one only knew. Surely the true order of things would reveal a different arrangement. Let all of these others make their judgements about him. There is aloose out there a chink in their armour, a speciousness in their reasoning. This defect is, well--a mystery. There is a mystery in the world and its very existence unravels the entire unjust present.

What the individual can do is claim this mystery; he does so practically by merely becoming a believer. It is now his universe and others must stumble around in the dark. Now he has status elbow room, a little space to maneuver without damaging self-comparison. What he has acquired is an instant social leveler. Let others say what they will--by God, there is a mystery in the world.

So far as I know there is no way to ever absolutely control this expression of social envy or to root out the need it satisfies. What we have said here applies to pauper and millionaire alike. For the latter there is always the coveted status of the billionaire and for him there is the envy of those more intelligent or more beautiful or simply more youthful--or whatever. A mystery is functional in our lives; in all of our lives. And is that not the way myth has always worked? Do they not inevitably, in some form or other, promise a happy hunting ground or a heaven or even a social utopia in which the true order of things will emerge by an overturning of current values?

But the religionist, insofar as "the meek shall inherit the earth," will control his envy until the next world. The social utopian, insofar as "workingmen ought to drop their chains," wants his score settled in the here and now. The sasquatch believer is, as I have tried to show by analyzing his communications system, more primitive than either. He wants a mystery; a mystery, I will argue, unconnected to the accomplishments of others. For as long as this is the case, there remains the possibility for the social validation of a phantasized self.

Those who do not wish to so uncritically accept these mythical entities find themselves at something of a loss. The whole thing is as slippery as an eel. Since nothing can be proven by the null case, not finding one of these creatures proves exactly nothing. Sasquatchland is a safe place to journey to play ego-saving games.

To summarize and conclude: we have examined the existing literature containing several hundred first-hand reports of the sasquatch. These reports present the physical and behavioral profile of an animal whose essential traits are for the most part highly improbable and, in respect to some, entirely impossible. It seemed reasonable, therefore, that a more adequate understanding would come from an examination of the social responses associated with the sasquatch rather than the improbable creature itself. In this area it was found that the "sasquatch syndrome," along with numerous other perpetual mysteries, exhibit characteristics well understood by social psychologists; that the social dynamics associated with them--literally, that create and sustain them--are recognized processes found in many

many other areas of social problem-solving. After an analysis of these dynamics and after the presentation of several of their concrete instances, it was concluded that those who report the sasquatch are either acting in conjunction with these processes or are untruthful. It was further suggested that sasquatch believers, as opposed to sasquatch reporters, are influenced by a related but somewhat different motivation. Believers, it is reasoned, find that "the mystery" is an excellent area within the social communication system to respond to their own feeling of what has been traditionally called social envy; a desire to escape labels and values given to the individual by society so as to either "win the game" or create values of his own outside of a common competitive sphere.

What the sasquatch represents, I believe, is a modern form of myth and we are priviledged to be able to see it in the making. There is in the sasquatch reward enough. Like most myth, there is the freedom of improvization and opportunity to participate in this creation. There is the breaking out of the bounds of the usual; statuses are not fixed, dominance is overturned, social envy is controlled, and all of this is accompanied by a sense of wonder. And perhaps not least, by participating in a form of primitive communication, there is provided a regression to that early life, whether of the species or the individual, where responsibilities are not overburdening.

My last thought is that we probably need the sasquatch as much as he need us. He is, after all, a most human animal.

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